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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,592

09/23/2003

Hisao Koga

36150

5683

116

7590

07/13/2006

PEARNE & GORDON LLP

1801 EAST 9TH STREET

SUITE 1200

CLEVELAND, OH 44114-3108

EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/669,592

Applicant(s)

KOGA ET AL.

Examiner

Khanh Tran

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. The Preliminary Amendment filed on 04/27/2006 has been entered. Claims 1-12 are pending in this Office action.

***Claim Objections***

2. Claim 1 is objected to because of the following informalities: in line 5, “, which comprises” should be changed to -- the communication apparatus comprising --. Appropriate correction is required.

3. Claim 4 is objected to because of the following informalities: in line 5, “, which comprises” should be changed to -- the communication apparatus comprising --. Appropriate correction is required.

4. Claim 5 is objected to because of the following informalities: in line 5, “ -1” should be changed to -- M-1 --; in line 10, “ -1” should be changed to -- M-1 --. Appropriate correction is required.

5. Claim 6 is objected to because of the following informalities: in line 5, “ -1” should be changed to -- M-1 --. Appropriate correction is required.

6. Claim 8 is objected to because of the following informalities: in line 5, “, which comprises” should be changed to -- the communication apparatus comprising --. Appropriate correction is required.

7. Claim 9 is objected to because of the following informalities: in line 5, “, which comprises” should be changed to -- the communication apparatus comprising --; in line 23, “ -1” should be changed to -- M-1 --. Appropriate correction is required.

8. Claim 10 is objected to because of the following informalities: in line 5, “, which comprises” should be changed to -- the communication apparatus comprising --; in line 21, “ -1” should be changed to -- M-1 --. Appropriate correction is required.

9. Claim 11 is objected to because of the following informalities: in line 5, “, which comprises” should be changed to -- the communication apparatus comprising --; in line 22, “ -1” should be changed to -- M-1 --. Appropriate correction is required.

10. Claim 12 is objected to because of the following informalities: in line 7, “ -1” should be changed to -- M-1 --. Appropriate correction is required.

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wong U.S. Patent 6,947,509 B1 discloses "Oversampled Filter Bank For Subband Processing".

Kjeldsen et al. U.S. Patent Application Publication No. 2003/0231714 A1 discloses "System And Method For Orthogonally Multiplexed Signal Transmission And Reception".

Wiese, Jr. U.S. Patent 6,493,666 B2 discloses "System And Method For Processing Data From And For Multiple Channels".

Benedetto U.S. Patent 5,388,182 discloses "Nonlinear method and apparatus for coding and decoding acoustic signals with data compression and noise suppression using cochlear filters, wavelet analysis, and irregular sampling reconstruction".

12. This application is in condition for allowance except for the following formal matters:

The outstanding issues as discussed above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

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A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT

*Khanh Cong Tran*  
Primary Examiner

07/07/2006  
KHANH TRAN